

# THE TOOLS OF CLASSROOM TALK

It is useful to carefully think about the tools we use when eliciting responses from students: it matters what you say and how you say it.

The tools include strategies (called “talk moves”) that:

- Support mathematical thinking
- Talk formats that provide different ways to organize students for conversation
- Ideas for creating a classroom where respect and equal access to participation are valued norms

Although these “talk moves” come from an article that uses them in mathematics (and the examples I have included incorporate mathematics), they are valuable to use in all subject areas.

*\*When students talk about mathematics, it's often very difficult to understand what they say...even if their reasoning is sound.\**

Talk Move	What It Is/Use	Benefit
<b>Revoicing</b> -“So you’re saying that it’s an odd number?”	-teacher essentially tries to repeat some or all of what the student has said, and then asks the student to respond and verify whether or not the teacher’s revoicing is correct  -provides more “thinking space” for other students	-allows teacher to interact with a student in a way that will continue to involve that student in clarifying his or her own reasoning -not only helps teacher to help student clarify their meaning, also helps other students understand their meaning -if students are not able to verbally explain their understanding, ideas, methods, etc., they will not be able to explain it in writing -solidifies understanding and identifies misconceptions
<p><i>Mrs. Davies has given her third graders a series of numbers, and in a whole-group discussion has asked them to say whether the numbers are even or odd. They have established that if you can divide a number by two evenly, then it is an even number. Phil has tackled the number 24. His contribution is less than completely clear.</i></p> <p><b>Phil:</b> Well, if we could use three, then it could go into that, but three is odd. So, then if it was...but...three is even. I mean odd. So if it’s odd, then it’s not even.</p> <p><b>Mrs. D:</b> OK, let me see if I understand. So you’re saying that twenty-four is an odd number?</p> <p><b>Phil:</b> Yeah. Because three goes into it, because twenty-four divided by three is eight.</p> <p><i>...identifies a basic misconception about even and odd numbers</i></p>		

<p><b>Asking students to restate someone else's reasoning</b></p> <p>-“Can you repeat what he just said in your own words?”</p>	<p>-teacher asks one student to repeat or rephrase what another student has said, and then immediately follows up with the first student</p>	<p>-gives the rest of the class another rendition of the first student's contribution</p> <p>-gives class more time to process first student's statement</p> <p>-adds to the likelihood that students will follow the conversation and understand the student's point</p> <p>-gives all students full access to participate (and encourages them to <b>listen</b>, because they are now accountable for what others say)</p> <p>-especially valuable with ELL students</p> <p>-provides evidence that the other students could and did hear what the student has said</p> <p>-provides student with evidence that his thinking is being taken seriously</p>
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**Mrs. D:** Can anyone repeat what Phil just said in his or her own words? Miranda?

**Miranda:** Um, I think I can. I think he said that twenty-four is odd, because it can be divided by three.

**Mrs. D:** Is that right, Phil? Is that what you said?

**Phil:** Yes.

<p><b>Asking students to apply their own reasoning to someone else's reasoning</b></p> <p>-“Do you agree or disagree and why?”</p>	<p>-to elicit student reasoning about the claim made by a student</p>	<p>-The point of this move is to cause students to make explicit their reasoning by applying their thinking to someone else's contribution</p>
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**Mrs. D:** Miranda, do you agree or disagree with what Phil said?

**Miranda:** Well, I sort of...like, I disagree?

**Mrs. D:** Can you tell us why you disagree with what he said? What's your reasoning?

**Miranda:** Because I thought we said yesterday that you could divide even numbers by two. And I think you can divide twenty-four by two. And it's twelve. So isn't that even?

*Note that Mrs. D has refrained from supporting one or other position.*

<b>Prompting students for further participation</b> -“Would someone like to add on?”	-prompts other students either state agreement or disagreement and to add on other comments	-increases participation by asking for further commentary -encourages students to listen by making them accountable for what others say -overtime will result in students showing more willingness to weigh in on what the group is considering
<p><b>Mrs. D:</b> So we have two different ideas here about the number twenty-four. Phil, you're saying that twenty-four is odd because you can divide it by three?</p> <p><b>Phil:</b> Uh-huh</p> <p><b>Mrs. D:</b> And Miranda, you're saying that it's even because you can divide it by two? Is that correct?</p> <p><b>Miranda:</b> Yes.</p> <p><b>Mrs. D:</b> OK, so what about other people? Who would like to add to this discussion? Do you agree or disagree with Miranda's or Phil's ideas? Tell us what you think, or add on other comments or insights.</p>		
<b>Using wait time</b> -“Take your time...we'll wait...”	-a teacher should wait at least ten seconds for students to think before calling on someone for an answer -after a student has been called on to participate, the student should be given at least the same amount of wait time to organize his or her thoughts	-allows and encourages all students to make important contributions (that can be built on) -if we do not use wait time consistently and patiently, students give up and fail to participate, knowing they cannot “beat the clock”
<p><b>Ed (ELL):</b> Yes, I agree with Miranda's idea, because the only way you told us to find out if something is even is to divide by two. And if we divide twenty-four by three, we can also divide it by four. And we can divide it by six, too. So I think we should stick with two only.</p>		

# PRODUCTIVE-TALK FORMATS

## **Whole-Class Discussion**

- teacher often refrains from providing the correct answer (when “discovery” is possible...i.e., not with terminology or symbols) and does not reject incorrect reasoning
- the focus is on students’ ideas, not the correctness of their answers
- provides students with practice in mathematical reasoning
- students learn from processing information, applying reasoning, hearing ideas from others, and connecting new thinking to what they already know, all for the goal of making sense for themselves of new concepts and skills
- reveals students’ confusion, partial understandings and misconceptions

## **Small-Group Discussion**

- teacher typically gives students a question to discuss among themselves, in groups of three to six

## **Partner-Talk (TPS)**

- teacher asks a question and then gives students a short time (minute or two) to put their thoughts into words with their nearest neighbour
- benefits students who are keeping up with the lesson but are hesitant about voicing their thoughts to practice their contribution with just one conversational partner and ELL
- students who have not understood completely can bring up their questions with a partner, and perhaps formulate a way to ask them to the class.

# SUMMARIZING AND SOLIDIFYING

- During a talk-intensive lesson there will be moments when you and your students will feel overwhelmed: too much will have been said, and you will feel that you are losing focus.
- It’s important to step back and review what has been said so far, and what the most significant points have been.
- After each lesson, you will also want to spend some time reflecting on what important mathematical ideas, conjectures, claims and arguments have emerged during class.
- When you return the next day, it will be important for you to present to the students a review of the most important aspects of the previous day’s discourse.

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**Adapted From:**

Classroom Discussion: Using Math Talk to Help Students Learn – Grades 1 – 6.

Chapter 2: The Tools of Classroom Talk

N. Anderson, S. Chapin & C. O’Connor.